



Emergency Luminaire with LED

Series EXLUX 6409/4



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1 General Information

1.1 Manufacturer

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1.2 Information regarding the operating instructions

ID-No.: 266665 / 640960300140
Publication Code: 2020-06-25-BA00-III-en-02

The original instructions are the English edition.
They are legally binding in all legal affairs.

1.3 Further documents

- Data sheet
- For documents in additional languages, see r-stahl.com.

1.4 Conformity with standards and regulations

See certificates and EU Declaration of Conformity: r-stahl.com.
The device has IECEx approval. For certificate please refer to the IECEx homepage:
<http://iecex.iec.ch/>
Further national certificates can be downloaded via the following link:
<https://r-stahl.com/en/global/support/downloads/>.

2 Explanation of the symbols

2.1 Symbols in these operating instructions

Symbol	Meaning
	Tips and recommendations on the use of the device
	Danger due to explosive atmosphere
	Danger due to live components

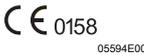
2.2 Warning notes

Warnings must be observed under all circumstances, in order to minimize the risk due to construction and operation. The warning notes have the following structure:

- Signalling word: DANGER, WARNING, CAUTION, NOTICE
- Type and source of danger/damage
- Consequences of danger
- Taking countermeasures to avoid the danger or damage

	DANGER
	Danger to persons Non-compliance with the instruction results in severe or fatal injuries to persons.
	WARNING
	Danger to persons Non-compliance with the instruction can result in severe or fatal injuries to persons.
	CAUTION
	Danger to persons Non-compliance with the instruction can result in light injuries to persons.
NOTICE	
Avoiding material damage Non-compliance with the instruction can result in material damage to the device and / or its environment.	

2.3 Symbols on the device

Symbol	Meaning
 0158 <small>0594E00</small>	CE marking according to the currently applicable directive.
 <small>02198E00</small>	According to marking, device approved for hazardous areas.

3 Safety notes

3.1 Operating instructions storage

- Read the operating instructions carefully.
- Store the operating instructions at the mounting location of the device.
- Observe applicable documents and operating instructions of the devices to be connected.

3.2 Safe use

Before mounting

- Read and observe the safety notes in these operating instructions!
- Ensure that the contents of these operating instructions are fully understood by the personnel in charge.
- Use the device in accordance with its intended and approved purpose only.
- Always consult R. STAHL Schaltgeräte GmbH if using the device under operating conditions which are not covered by the technical data.
- We cannot be held liable for damage to the device caused by incorrect or unauthorised use or non-compliance with these operating instructions.

For assembly and installation

- Observe national assembly and installation regulations (e.g. IEC/EN 60079-14).
- Observe national safety and accident prevention regulations.
- During installation and operation, observe the information (characteristic values and rated operating conditions) on the type plates and data plates and information signs located on the device.
- Before installation, make sure that the device is not damaged.

Maintenance, repair, commissioning

- Before commissioning, make sure that the device is not damaged.
- Work on the device, such as installation, maintenance, overhaul, repair, may only be carried out by appropriately authorised and trained personnel.
- Perform only maintenance work or repair described in these operating instructions.

3.3 Intended Use

The luminaire 6409/4 is equipment

- for lighting areas, work spaces and objects
- for emergency lighting in case of power failure.
- can be used indoors and outdoors
- for stationary mounting
- for use in Zones 21, 2, 22 and in the safe area

3.4 Modifications and alterations

	DANGER
	Explosion hazard due to modifications and alterations to the device! Non-compliance results in severe or fatal injuries. <ul style="list-style-type: none"> • Do not modify or alter the device.
	No liability or warranty for damage resulting from modifications and alterations.

4 Function and device design

	DANGER
	Explosion hazard due to improper use! Non-compliance results in severe or fatal injuries. <ul style="list-style-type: none"> • Use the device only in accordance with the operating conditions described in these operating instructions. • Use the device only for the intended purpose specified in these operating instructions.

4.1 Function

Application range

The luminaire 6409/4 is equipment used for lighting areas, work equipment and objects. It can be used indoors or outdoors and is suitable for emergency lighting in case of power failure.

The luminaire is approved for use in hazardous areas of Zones 2, 21 and 22.

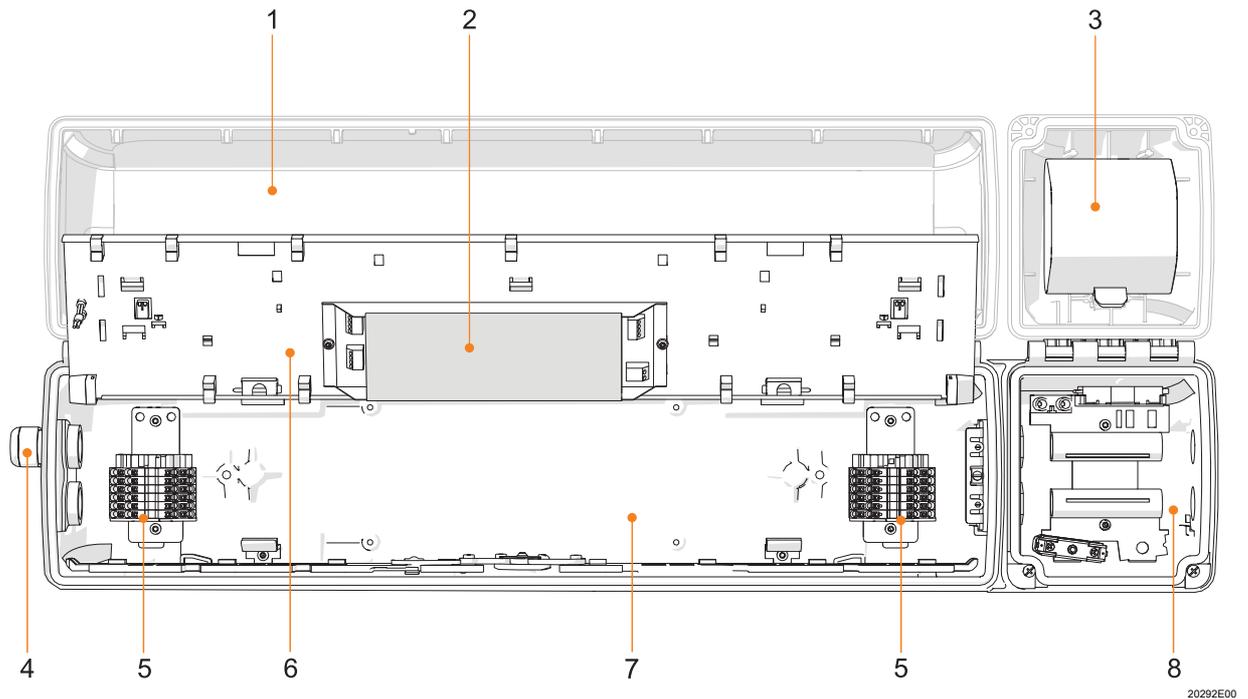
Mode of operation

A weekly functional test and annual rated operating time test have been permanently integrated.

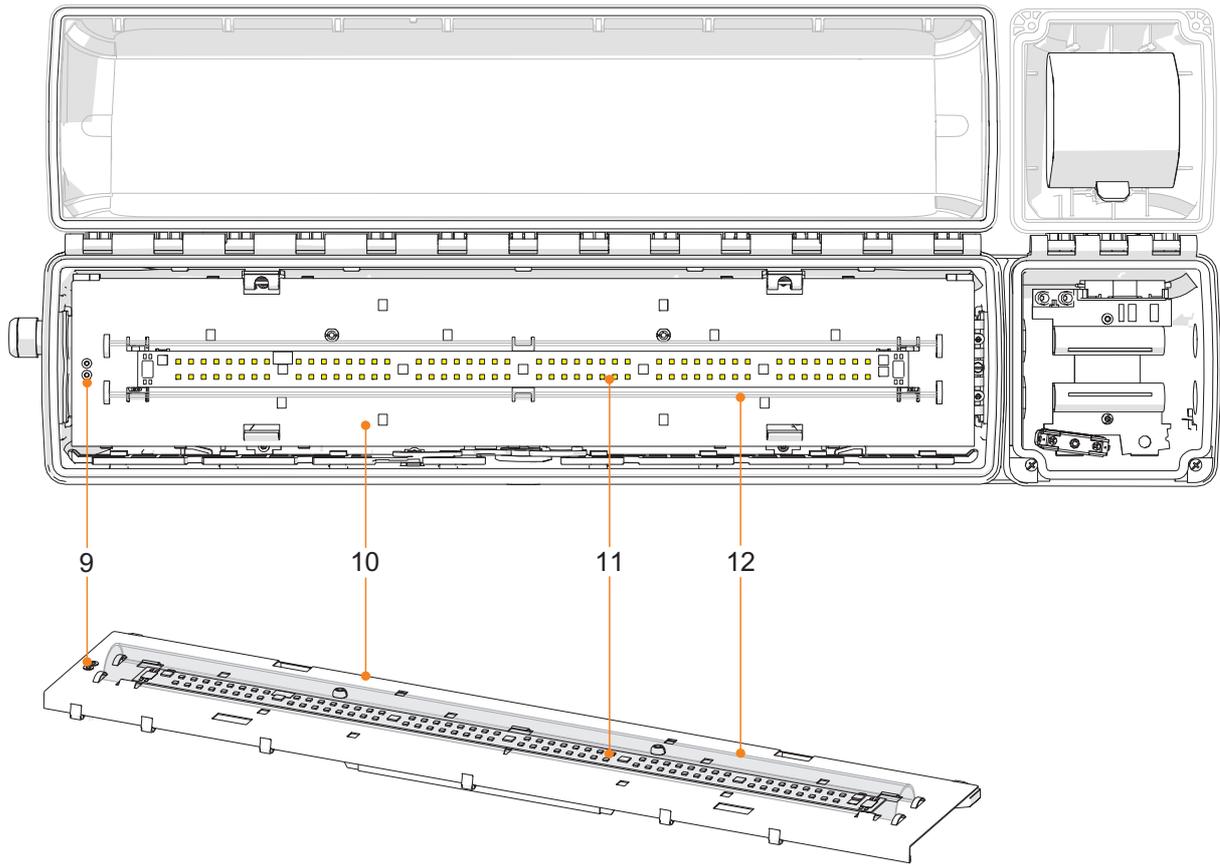
When opened using a central lock, the luminaire switches off automatically (optional).

The operating hours can be determined and the luminaire can be dimmed and switched via an optional DALI interface.

4.2 Device design



- | | | | |
|---|-------------------|---|------------------------------|
| 1 | Translucent cover | 5 | Connection terminal |
| 2 | Control gear | 6 | Mounting plate (bottom side) |
| 3 | Battery | 7 | Luminaire enclosure |
| 4 | Cable entry | 8 | Battery enclosure |



20293E00

- | | | | |
|----|---------------------------|----|----------|
| 9 | LED indicator | 11 | LED PCB |
| 10 | Mounting plate (top side) | 12 | Diffuser |

5 Technical data

Explosion Protection

Global (IECEX)

Gas and dust	IECEX IBE 16.0047 Ex db ec IIC T4 Gc Ex tc IIIC T100°C Dc Ex tb op is IIIC T100°C Db
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Europe (ATEX)

Gas and dust	IBExU 16 ATEX 1233 ⊕ II 3 G Ex db ec IIC T4 Gc ⊕ II 3 D Ex tc IIIC T100°C Dc ⊕ II 2 D Ex tb op is IIIC T100°C Db
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Certifications and certificates

Certificates	IECEX, ATEX
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Technical Data

Electrical data

Rated operational voltage	AC: 110 to 240 V ±10 %; 50 to 60 Hz				
Rated insulation voltage	250 V				
Rated operational current	Size 2		Size 4		
	At nominal voltage	110 V	230 V	110 V	230 V
	During stand-by switching mode	< 0.08 A	< 0.08 A	< 0.08 A	< 0.08 A
	In continuous mode	0.24 A	0.13 A	0.43 A	0.21 A
Inrush current	I _{peak} = 62 A; Δt = 122 μs maximum number of luminaires per miniature circuit breaker at 230 V:				
	Type	10 A	16 A	20 A	25 A
	B	10	17	21	27
	C	18	28	36	45
	K	36	57	72	90
Power factor	Size 2		Size 4		
	At nominal voltage	110 V	230 V	110 V	230 V
		≥ 0.98	≥ 0.90	≥ 0.99	≥ 0.95
THD	Size 2: < 15 % Size 4: < 8 %				
Protection class	I (with internal PE connection)				

Technical Data

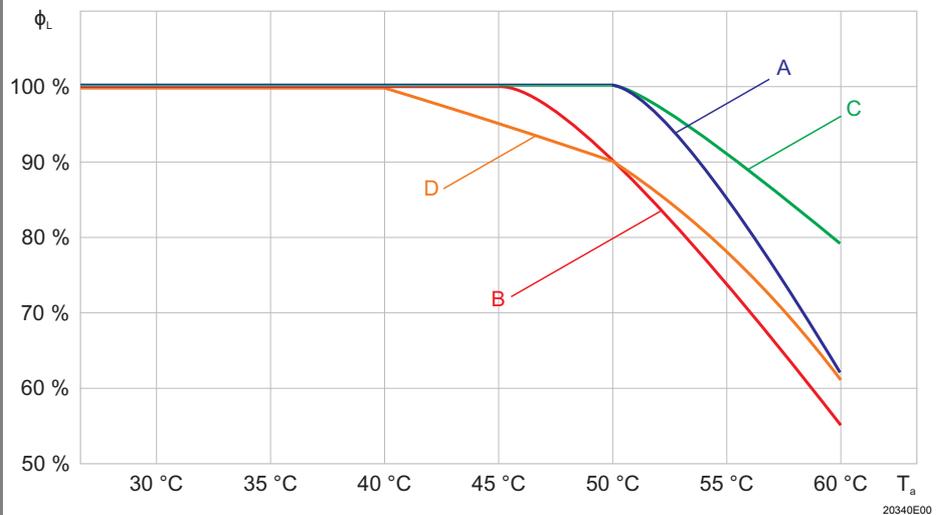
Luminous characteristics

Colour rendering Ra ≥ 80
 Colour temperature 4,000 K, 5,000 K or 6,500 K depending on the variant
 Luminous flux

	Size 2		Size 4	
	with	without	with	without
Power consumption [W]	25		45	
Diffuser	with	without	with	without
Luminous flux [lm]	2,910	3,230	5,810	6,460
Luminaire efficacy [lm/W]	116	129	129	144

Values apply to $T_a = +25\text{ °C}$.

Luminous flux decline at ambient temperature



A: Size 2; 230 V 50 Hz
 B: Size 4; 230 V 50 Hz
 C: Size 2; 110 V AC 60 Hz
 D: Size 4; 110 V AC 60 Hz

Ambient conditions

Ambient temperature without through wiring	-30 to +60 °C (1, 2)
I_N through wiring ≤ 10 A	-30 to +55 °C (1, 2)
I_N through wiring ≤ 16 A	-30 to +50 °C (1)

(1) **Rated operating time during emergency light operation** is guaranteed within an ambient temperature range of -5 to +50 °C. This also applies to charging and discharging of the battery. The rated operating time might be reduced if used outside this temperature range.

(2) **Battery service life** is guaranteed within an ambient temperature range of -30 to +50 °C according to IEC/EN 60598-2-22.

Storage temperature -30 to +60 °C

Technical Data

Service life

LED Life Time	<p>L₉₀B₅₀: 100,000 h</p> <p>L_xB_y At the end of the service life:</p> <ul style="list-style-type: none"> • Luminous flux decline to "x" percent • Up to "y" percent of all luminaires fall below "x"
LED control gear	<p>C₁₀ at 60 °C ≥ 100,000 h C₁₀ = failure rate 10 %</p>

Mechanical data

Degree of protection	<p>IP66 / IP67 (IEC 60598) IP64 if a breather is used</p>
Impact strength (IK code)	<p>IK10 (IEC 62262)</p>
Material	<p>Enclosure: polyester resin, glass fibre reinforced</p> <p>Enclosure colours: Grey colour, similar to RAL 7035</p> <p>Lamp cover: Polycarbonate</p> <p>Seal: Silicone seal, foamed into the translucent cover</p>
Luminaire locking	<p>Central lock for M8 / A/F 13 box spanner; the translucent cover can be swivelled on its hinge</p>

Mounting / Installation

Cable glands	<p>Standard luminaire</p> <p>Plastic: 2 x M25 x 1.5 cable entries 8161 and 2 x M25 x 1.5 stopping plugs 8290 (enclosed)</p> <p>Metal: 2 x metal plates M20 x 1.5 connected by means of PE for metal cable entries Attention: cable entries must be ordered separately</p> <p>Special version: max. 4 drilled holes for M20, M25, NPSM ½" max. 2 drilled holes for NPT ¾"</p> <p style="padding-left: 40px;">Metal cable glands: M20 x 1.5, M25 x 1.5; earthing metal cable entries using metal plates</p>
Connection	<p>Spring clamp terminals</p> <p>Standard: 6-pole: L1, L2, L3, L', N, PE with DALI: 8-pole: L1, L2, L3, L', N, PE, D1, D2</p> <p>Clamping range: 1 x 1.5 to 6 mm² (solid) 1 x 1.5 to 4 mm² (finely stranded) 1 x 1.5 to 6 mm² (finely stranded with core end sleeves) (2 free clamping units per pole available)</p>

Technical Data

Through wiring

Standard luminaire

with

Luminaires are equipped with internal through wiring. Connection of ingoing and outgoing leads on opposite sites is possible.

Terminals: See Tech. data

Wiring cross section of the supply line connection:

2.5 mm² for max. 16 A

(Observe service temperature)

Optional

without

On the connection side, there are 2 bores M25 x 1.5 for cable entries for through wiring of the connection line (ingoing and outgoing leads on one side).

Assembly

Standard luminaire

Standard: 2 x M8 insert nuts in the enclosure

Special: Mounting grooves in the enclosure for use of fastening and ceiling rails for variable luminaire mounting (variable mounting distances for luminaires

L = 700 mm: 320 to 480 mm;

L = 1310 mm: 670 to 930 mm)

Control gear

Emergency light mode

In case of power failure the LEDs are supplied by the battery

Rated operating time

at optimal ambient temperature of the battery:

Battery capacity	Rated operating time	Emergency light output	
		Size 2	Size 4
7 Ah	1.5 h	65 %	35 %
	3.0 h	35 %	20 %

Switchover voltage

From mains to battery operation at $U < 0.83 \times U_N$

From battery to mains operation at $U > 0.88 \times U_N$

Battery set

Version

NiCd battery, gas-tight

Operating voltage

6 V

Capacity

7 Ah

Replacing the battery set

When opening the battery enclosure, the connection between the battery and the control gear is disconnected by means of a switch.

The battery set can be replaced after disconnecting the plug-in contacts.

Optional

DALI-connection

DALI interface in accordance with IEC 62386-207:2009-08

Breather

Breather 8162/1 from R.STAHL Schaltgeräte GmbH

The breather guarantees compliance with degree of protection IP64 in all mounting positions. The breather may not be used in atmospheres with corrosive gasses.

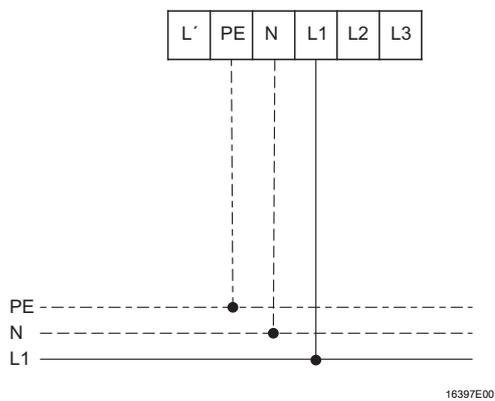
For further technical data, see r-stahl.com.

6 Engineering

6.1 Mains operation

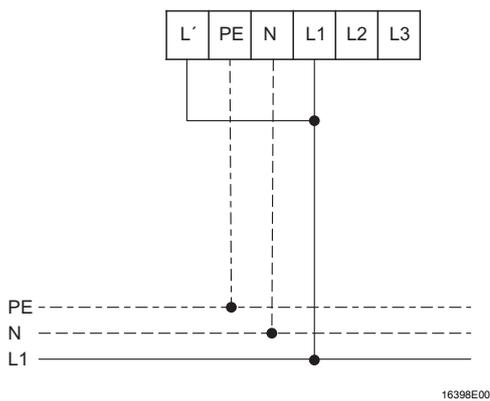
6.1.1 Stand-by operation

- The light fitting is switched off.



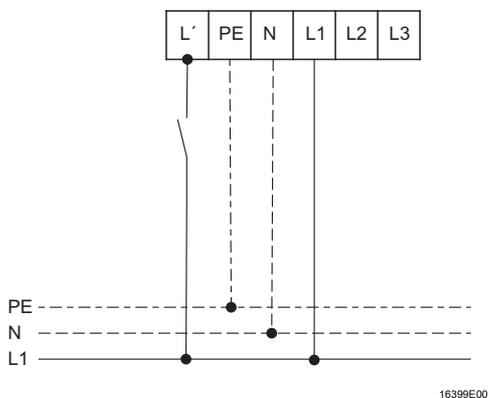
6.1.2 Continuous operation

- The light fitting is switched on.



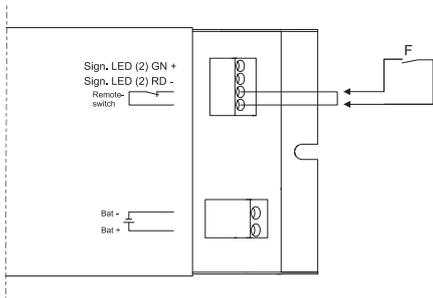
6.1.3 Normal lighting operation

- The light fitting is operated by normal lighting.



6.2 Emergency light blocking

A remote switch for emergency light blocking can be connected to terminals "Remote-switch" of the control gear.



19192E00

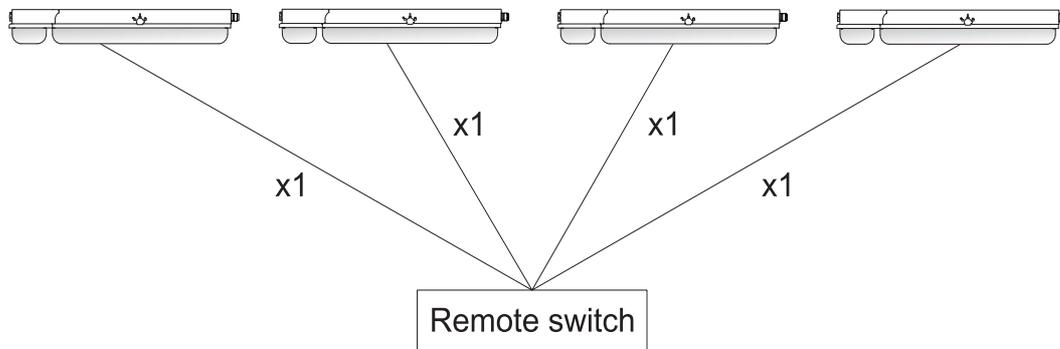
	Remote switch is closed	Remote switch is opened
Power supply operation	Switching on the luminaire depending on operation mode	Switching on the luminaire depending on operation mode
Power failure	Emergency light function	No emergency light function

6.2.1 Connection version remote switch

The remote switch is directly connected to the control gear.

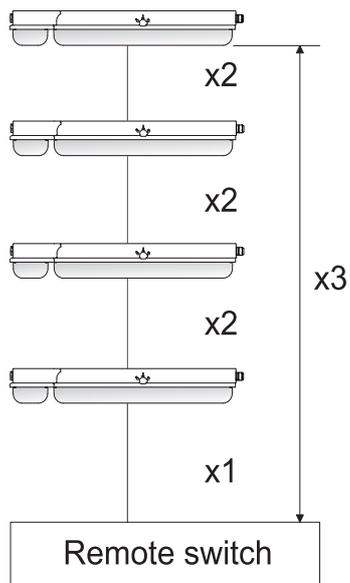
The following connection versions are possible:

Point-to-point connection



18474E00

Linear connection



18473E00

The following conductor specifications must be observed during connection.

	Point-to-point connection	Linear connection
maximum conductor length		
x 1	500 m	100 m
x 2		50 m
x 3		500 m
maximum number of light fittings	50	30
Cable cross section	1.5 mm ²	1.5 mm ²

7 Transport and storage

7.1 General

- Transport and store the device only in the original packaging.
- Store the device in a dry place (no condensation) and vibration-free.
- Do not drop the device.

7.2 Batteries

- Do not transport together with other materials.
- Do not transport in explosive dust atmosphere.
- Handle with care.
- Store protected from fire, sources of dust, harmful gases and liquids.
- Store in a dry and cool location.

NOTICE

Risk of deep battery discharge due to exceeded storage!

Non-compliance can result in material damage!

- The battery should be charged within 26 weeks from date of production by means of operating the luminaire.

Recommendation:

- Store battery at an ambient temperature of +5 to +25 °C and a relative humidity of 65 ±5 %. The storage period is reduced of up to one month if stored outside this temperature range.

8 Mounting and installation



DANGER

Explosion hazard due to incorrect installation of the device!

Non-compliance results in severe or fatal injuries.

- Carry out installation strictly according to the instructions and national safety and accident prevention regulations to maintain the explosion protection.
- Select and install the electrical device so that explosion protection is not affected due to external influences, i.e. pressure conditions, chemical, mechanical, thermal and electric impact such as vibration, humidity and corrosion (see IEC/EN 60079-14).
- The device must only be installed by trained qualified personnel who is familiar with the relevant standards.

NOTICE

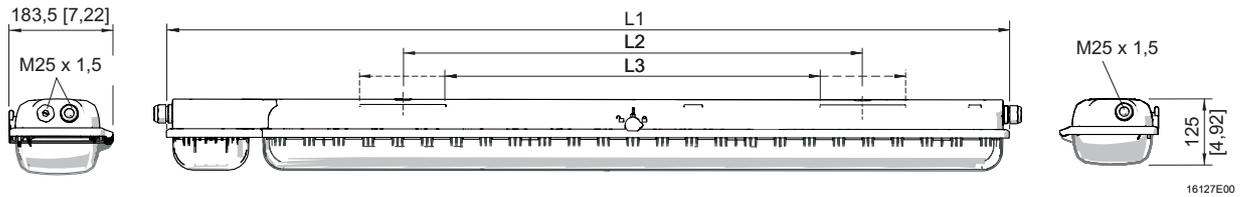
Malfunction or device damage caused by condensation.

Non-compliance can result in material damage!

- operate the luminaire continuously or periodically over extended periods of time.
- avoid thermal bridges.

8.1 Dimensions / fastening dimensions

Dimensional drawings (all dimensions in mm [inches]) – Subject to modification



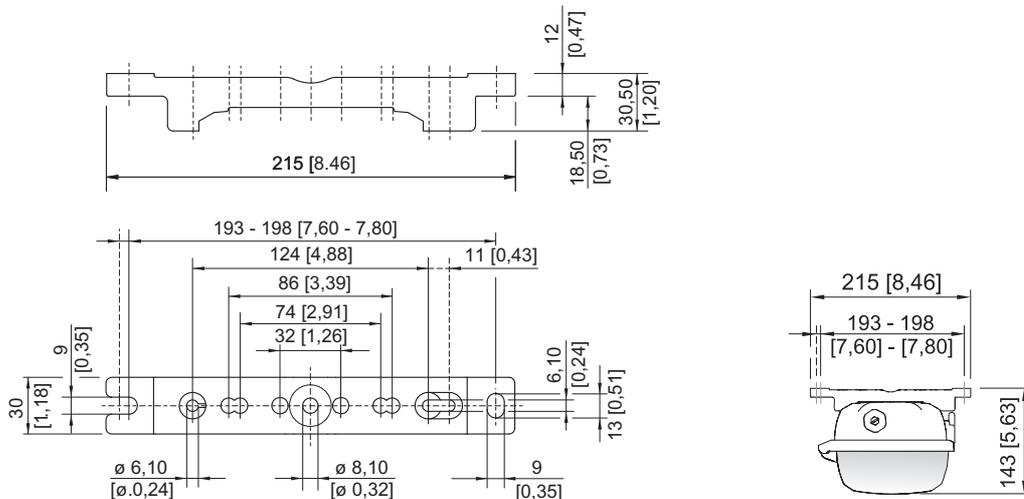
Dimensions	Luminaire	
	Size 2	Size 4
L1	857 [33.74]	1467 [57.76]
L2 ¹⁾	400 [15.75]	800 [31.50]
L3 ²⁾	320 to 480 [12.60 to 18.90]	670 to 930 [26.38 to 36.61]

¹⁾ fixed mounting distance

²⁾ variable mounting distance

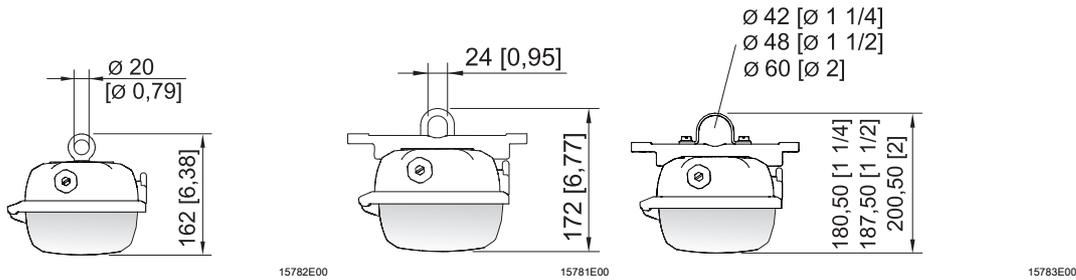
EXLUX 6409/4

Dimensional drawings for assembly parts and accessories (all dimensions in mm [inches]) – Subject to alterations



Mounting rail

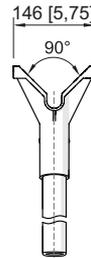
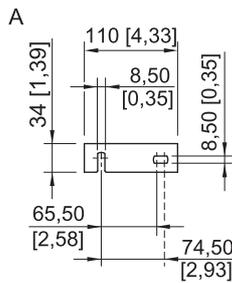
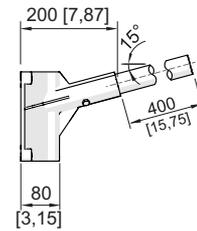
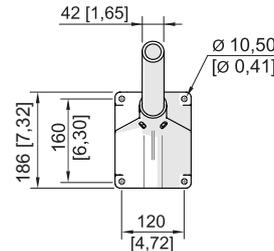
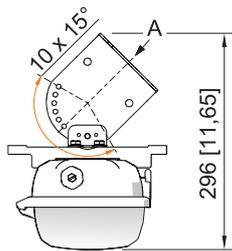
Dimensional drawings for assembly parts and accessories
(all dimensions in mm [inches]) – Subject to alterations



Ring bolt fitted in insert nut of the luminaire

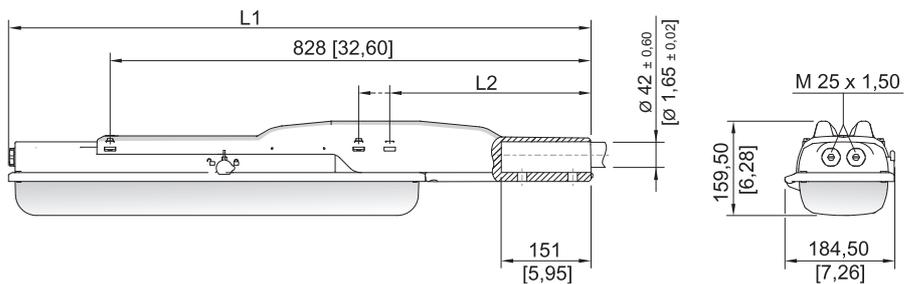
Mounting bracket fitted in mounting rail

Pipe clamp fitted in mounting rail



Wall mounting bracket fitted in mounting rail

Bracket for wall mounting with pipe section



Dimensions	Luminaire	
	Size 2	Size 4
L1	1135 [44.69]	1744 [68.66]
L2	390 [15.35]	338 [13.31]

Linear luminaire EXLUX with pole mounting sleeve

8.2 Removing protective foil

As standard, the luminaire is generally delivered with protective foil on the translucent cover. However, in some cases, it can be delivered without protective foil.

	DANGER
	<p>Explosion hazard due to electrostatic discharge! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> • Only remove protective foil in safe areas.

- If protective foil is available:
Remove protective foil prior to commissioning.

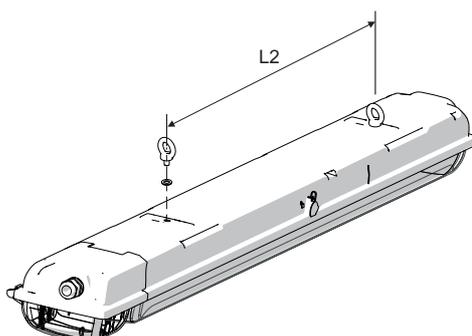
8.3 Mounting / dismantling, operating position

	DANGER
	<p>Explosion hazard due to electrostatic discharge! Non-compliance results in severe or fatal injuries.</p> <p>Do not use the luminaire in strong charge generating environments!</p> <p>The following processes/activities should be avoided:</p> <ul style="list-style-type: none"> • accidental friction • particle currents

	DANGER
	<p>Explosion hazard due to inadmissible heating! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> • Avoid external heat sources and/or direct sunlight (risk of change of temperature class or change of maximum permissible surface temperature). • Do not exceed the maximum ambient temperature due to external heat sources (premature failure of equipment).

	<p>The luminaire is suitable for wall and ceiling mounting. In event of wall mounting in outdoor areas, avoid installation with central lock at top. The mounting position with upward light emission in outdoor areas is prohibited.</p>
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Suspension at fixed mounting points

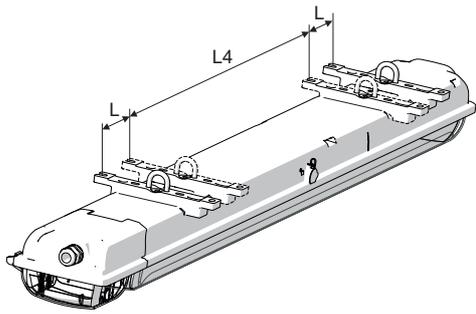


Size	L2 mm [inch]
2	400 [15.75]
4	800 [31.50]

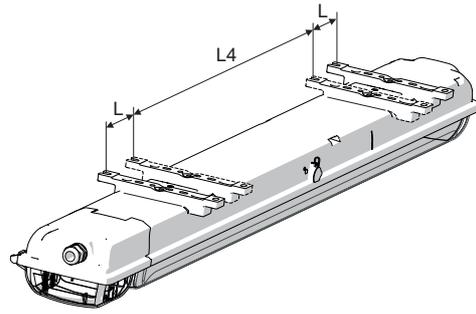
max. screw-in depth 10 mm [0.39]

16324E00

Suspension at movable mounting parts



16325E00



16326E00

Mounting bracket

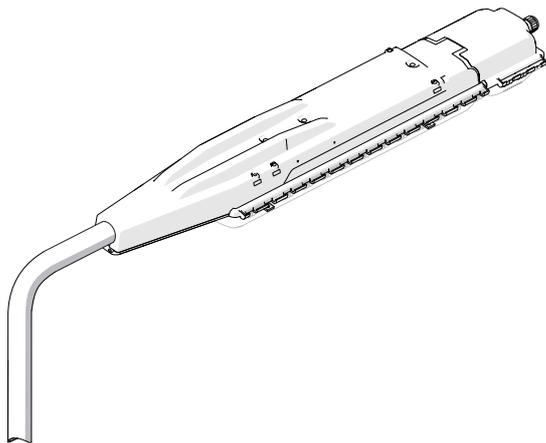
Top rail

Size	L4 mm [inch]	L mm [inch]
2	320 [12.60]	80 [3.15]
4	670 [26.38]	130 [5.12]

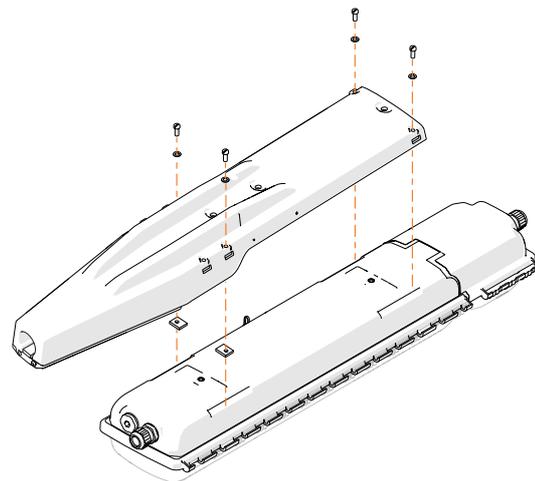
Lateral mounting pockets for variable points of suspension.

	<p>When mounting the luminaire using top rails, ensure that the mounting surface is flat. Otherwise, the enclosure might be mounted in a warped/ twisted way. The result is leakage of the luminaire and difficulties in replacing the translucent cover.</p>
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Pole mounting using pole mounting sleeve

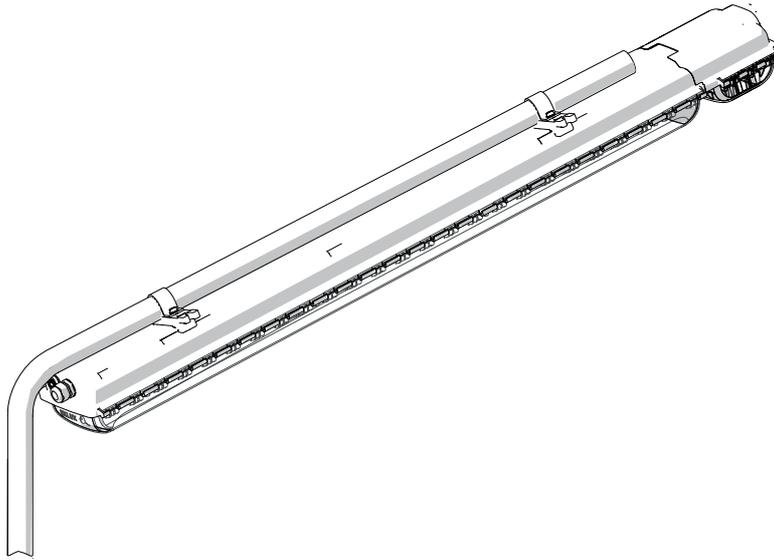


18483E00

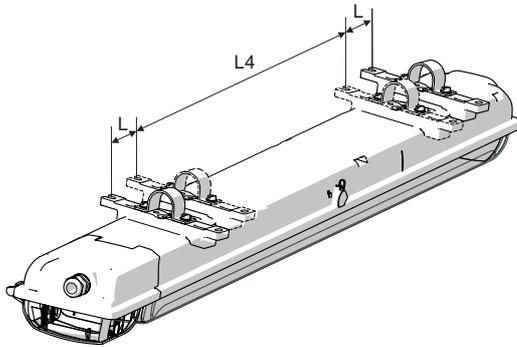


18482E00

Pole suspension
Pole mounting using pipe clamps



16327E00

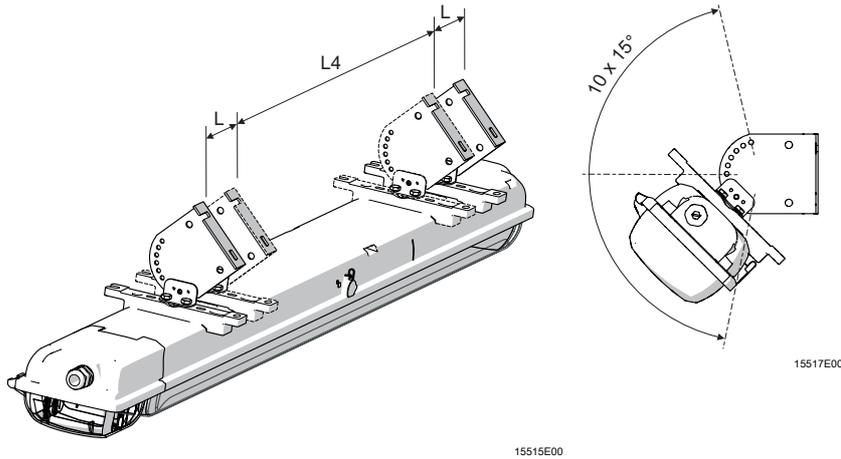


16328E00

Size	L4 mm [inch]	L mm [inch]
2	320 [12.60]	80 [3.15]
4	670 [26.38]	130 [5.12]

i For pipe clamp mounting, use the solution of R. STAHL Schaltgeräte GmbH with integrated mounting rail providing reliable and stable four-point fixing! In case of point suspension using pipe clamps, R. STAHL Schaltgeräte GmbH does not guarantee the strength and tightness of the luminaire!

Wall bracket mounting



Size	L4 mm [inch]	L mm [inch]
2	320 [12.60]	80 [3.15]
4	670 [26.38]	130 [5.12]

8.4 Installation

8.4.1 Opening and Closing of the Enclosure

	DANGER
	<p>Risk of electric shock due to improper opening! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> • Open luminaires without switch only in de-energized state (see information plate on the lock)!
	<p>Recommendation Opening and closing of the luminaire by using a socket wrench from R. STAHL Schaltgeräte GmbH.</p>

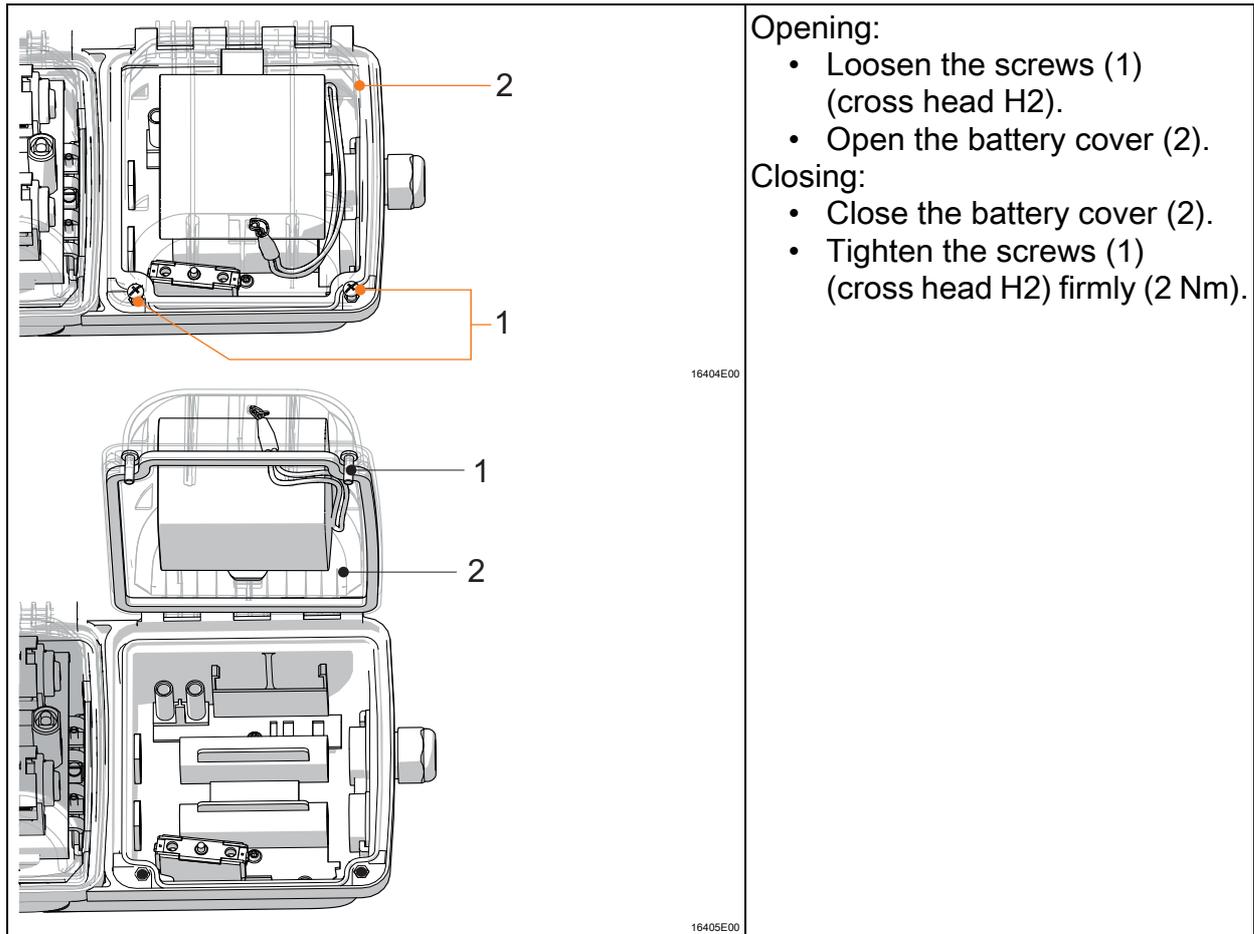
<p>15448E00</p> <p>15451E00</p> <p>15436E00</p>	<ul style="list-style-type: none"> • Remove the closing cap of the central lock. • Turn the central lock using a box spanner M8, spanner size 13, by 90° to the left as far as it will go. • Swivel down the translucent cover. • Proceed in reverse order to close. • The seal of the translucent cover must lie correctly on the sealing edge. • Push the closing cap onto the central lock opening (protection against dirt).
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<p>i</p>	<p>Observe the following during mounting and dismantling:</p> <ul style="list-style-type: none"> • Version without switch: Disconnect the luminaire from the power supply, secure it against being switched on again and open the battery case in order to disconnect from the battery voltage. • Do not use force when opening or closing the enclosure. <p>Central lock</p> <ul style="list-style-type: none"> • Version with switch: The luminaire is positively disconnected from the power supply by actuating the central lock. • In open end position and with translucent cover swivelled down, an anti-pumping device prevents the central lock from being actuated.
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Opening and closing the reflector plate

<p>1</p> <p>2</p> <p>15512E00</p>	<p>Opening:</p> <ul style="list-style-type: none"> • Open the reflector plate by pressing down on the safety latch (1). • Swivel down the reflector plate (2). <p>Closing:</p> <ul style="list-style-type: none"> • Flip up the reflector plate and snap it into place.
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Opening and closing the battery case



Opening:

- Loosen the screws (1) (cross head H2).
- Open the battery cover (2).

Closing:

- Close the battery cover (2).
- Tighten the screws (1) (cross head H2) firmly (2 Nm).

8.4.2 Electrical connections

Electrical connection

Observe the maximum clamping possibility of the connecting terminals (see chapter "Technical data").

For optional screw terminals, two conductors per clamping unit can be clamped (through wiring).

Observe the following when connecting to the main supply:

- Clamping must be carried out precisely!
- Do not clamp any part of the conductor insulation!
- Do not mix up the conductors!
- Observe the technical regulations when connecting the conductor!
- Clamp the conductor firmly.
- Do not remove the terminal cover of optional screw terminals to clamp the conductor!
- The phase L1 must be directly connected to the grid which functions as charging phase for the battery!

NOTICE

Danger due to wrong connection.

Malfunction

- Phases L and L1 must be connected in phase.

- Optional screw terminals: Firmly tighten screws (tightening torque 2 Nm, for unused clamping units 0.7 Nm)!

Connection terminals

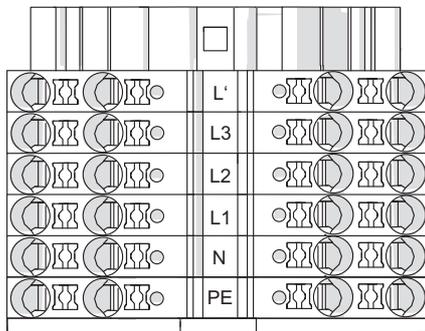
Clamping range:

- 1 x 1.5 to 6 mm² (solid)
- 1 x 1.5 to 4 mm² (finely stranded)
- 1 x 1.5 to 6 mm² (finely stranded with core end sleeves)
- (2 free clamping units per pole available)

Stripping length:

10 to 12 mm

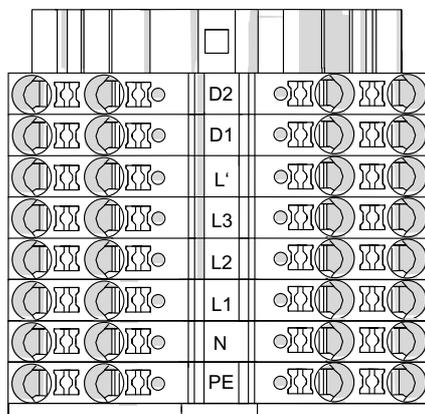
Standard:



- L' = switched phase
- L1 = charging phase
- L2, L3 = phase
- N = neutral conductor
- PE = protective conductor

20294E00

with DALI connection:



- D1, D2 = DALI connection
- L' = switched phase
- L1 = charging phase
- L2, L3 = phase
- N = neutral conductor
- PE = protective conductor

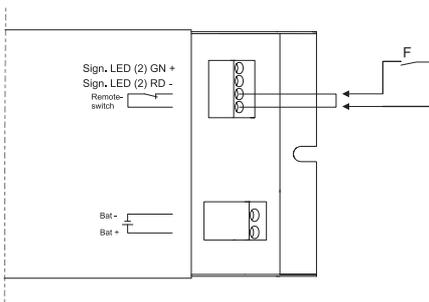
20302E00

Through wiring of the mains supply connection

i	Through wiring with 2.5 mm ² cross section for max. 16 A.
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Connection of remote switch to control gear

Connecting the remote switch to the potential-free contact "Remote switch" of the control gear.



Clamping range:
1.5 mm² solid, finely and
extra finely stranded
Stripping length:
8.5 to 9.5 mm

19192E00

8.4.3 Cable entries

The standard luminaire is delivered with 3 lead-in holes, 2 cable glands and 2 stopping plug.

Tightening torques for components from R. STAHL Schaltgeräte GmbH

Luminaires with installed cable entries and stopping plugs from R. STAHL Schaltgeräte GmbH must be tightened using the following values:

		Tightening torque	
		Connection thread	Pressure screw
Cable entry 8161	M20 x 1.5	2.3 Nm	1.5 Nm
	M25 x 1.5	3.0 Nm	2.0 Nm
Stopping plugs 8290	M20 x 1.5	1.0 Nm	–
	M25 x 1.5	1.5 Nm	–

Luminaires with cable entries and stopping plugs which are not supplied by R. STAHL Schaltgeräte GmbH

	DANGER
	<p>Explosion hazard due to impermissible cable entries and stopping plugs! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> • Only use separately certified cable glands and stopping plugs which have been tested and certified according to Directive 2014/34/EU (ATEX) or IECEx (CoC) and which comply with the standard version stated in the certificate of the luminaire.

Please observe the following:

- the required dust resistance!
- the required type of protection!
- the required temperature resistance!
- the IP degree of protection according to the rating plate!
- the operating instructions of the cable entries and stopping plugs!
- the required tightening torques!
- the range of the permissible cable diameter!
- Insert the metal cable entries and/or stopping plugs into the PE!

9 Commissioning

	DANGER
	<p>Explosion hazard due to incorrect installation! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> • Check the device for proper installation before commissioning. • Comply with national regulations.
NOTICE	
<p>Malfunction or device damage caused by condensation. Non-compliance can result in material damage!</p> <ul style="list-style-type: none"> • operate the luminaire continuously or periodically over extended periods of time. • avoid thermal bridges. 	

Before commissioning, ensure the following:

- Check the mounting and installation.
- Inspect enclosure for damage.
- If necessary, remove foreign bodies.
- If necessary, clean the connection chamber.
- Check if the conductors have been inserted correctly.
- Check if all screws and nuts have been tightened firmly.
- Check if all drilled holes are closed.
- Check whether all the cable entries and stopping plugs have been tightened firmly.
- Check if all conductors have been clamped firmly.
- Check if the line voltage and the rated operational voltage are consistent.
- Check if the permissible conductor diameter for the corresponding cable entries have been used.
- Check if the device is closed according to regulations.
- Check if the battery is connected.
- the LED assembly and the diffuser are clean.
- Check that there is no protective foil on the translucent cover.

10 Operation

10.1 Operating Modes

Power supply operation:

- Stand-by operation The luminaire is switched off regardless of normal lighting.
- Continuous operation The luminaire is switched on regardless of normal lighting.
- Normal lighting operation The light fitting is operated by normal lighting.

Emergency light operation:

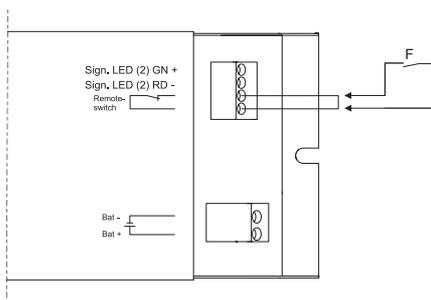
In the event of a power failure, the luminaire switches to emergency light operation. The luminaire is switched on regardless of the operation mode of the selected rated operating time.

Rated operating time

is 1.5 h or 3.0 h within the optimum temperature range depending on the variant (see chapter "Technical data").

Emergency light blocking

A remote switch for emergency light blocking can be connected to terminals "Remote-switch" of the control gear.



19192E00

	Remote switch is closed	Remote switch is opened
Power supply operation	Switching on the luminaire depending on operation mode	Switching on the luminaire depending on operation mode
Power failure	Emergency light function	No emergency light function

10.2 Functional and rated operating time test

To carry out the test, the following prerequisites must be fulfilled:

- the time interval has expired.
- the power supply operation was active for at least 1 hour.
- the remote switch is closed.

The test result is shown on the LED indicator.

During a test the luminaire is switched on.

Function test

- starts within 24 hours after commissioning.
- is carried out every 7 days.
- takes 1 minute.
- checks the function of the LEDs and the battery.

Rated operating time test

- starts within 44 days after commissioning.
- is carried out once a year.
- checks the function and the operating time of the luminaire during emergency light mode.
- is repeated after 14 days if rated operating time test is faulty.

10.3 Indications

When connecting to the power supply

Initialisation within 10 seconds

Second	Description	
0 to 2	Function test green LED	
2 to 4	Function test red LED	
4 to 10	Status rated operating time test	Green LED flashes - rated operating time test active Green LED off - rated operating time test not active

Then the LED indicator switches to operating mode.

During power supply operation

Blinking: 1 second on, 1 second off

Flashing: 0.25 seconds on, 0.75 seconds off

Green	Luminaire is ready for operation	
Blinking green	Luminaire is ready for operation	Function and rated operating time test activated
Red	Error	Battery is defective or electric circuit is interrupted
Blinking red	Error	Last function and/or rated operating time test faulty
Flashing red	Error	LEDs defective
Blinking green/red	Luminaire is ready for operation, no emergency light operation	Emergency light operation is deactivated by remote switch
Flashing green/red	Luminaire is ready for operation	Reset signal detected

During emergency light operation

The LED indicator is switched off.

10.4 Troubleshooting

Refer to the following troubleshooting chart during troubleshooting:

Cause of error

The LEDs are defective.

The control gear is defective.

The switch is defective.

Troubleshooting

Replace the mounting plate including LEDs and the control gear.

Replace the mounting plate including LEDs and the control gear.

Replace the switch.

Red LED indicator

The battery is defective.

The switch in the battery box is defective.

The switch in the luminaire is defective.

Replace the battery.

Replace the switch.

Replace the switch.

LED indicator blinking red

The battery capacity is too low.

The LEDs are defective.

Replace the battery.

Replace the mounting plate including LEDs and the control gear.

The LED indicator lights up in green after troubleshooting.

If the error cannot be eliminated using the mentioned procedures:

- Contact R. STAHL Schaltgeräte GmbH.

For fast processing, have the following information ready:

- Type and serial number of the device
- Purchase information
- Error description
- Intended use (in particular input / output wiring)

11 Maintenance, Overhaul, Repair

	CAUTION
	<p>Risk of electric shock or malfunction of the device due to unauthorized work! Non-compliance can result in light injuries!</p> <ul style="list-style-type: none"> • Before carrying out work on the device, switch off voltage supply. • Work performed on the device must only be carried out by authorized and appropriately trained qualified electricians.

11.1 Maintenance

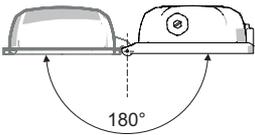
- Consult the relevant national regulations to determine the type and extent of inspections.
- Adapt inspection intervals to the operating conditions.
- Perform maintenance and repair work in accordance with IEC 60079-17 and IEC 60079-19.

	<p>Observe the relevant national regulations in the country of use.</p>
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As a minimum, check the following points during maintenance work on the device:

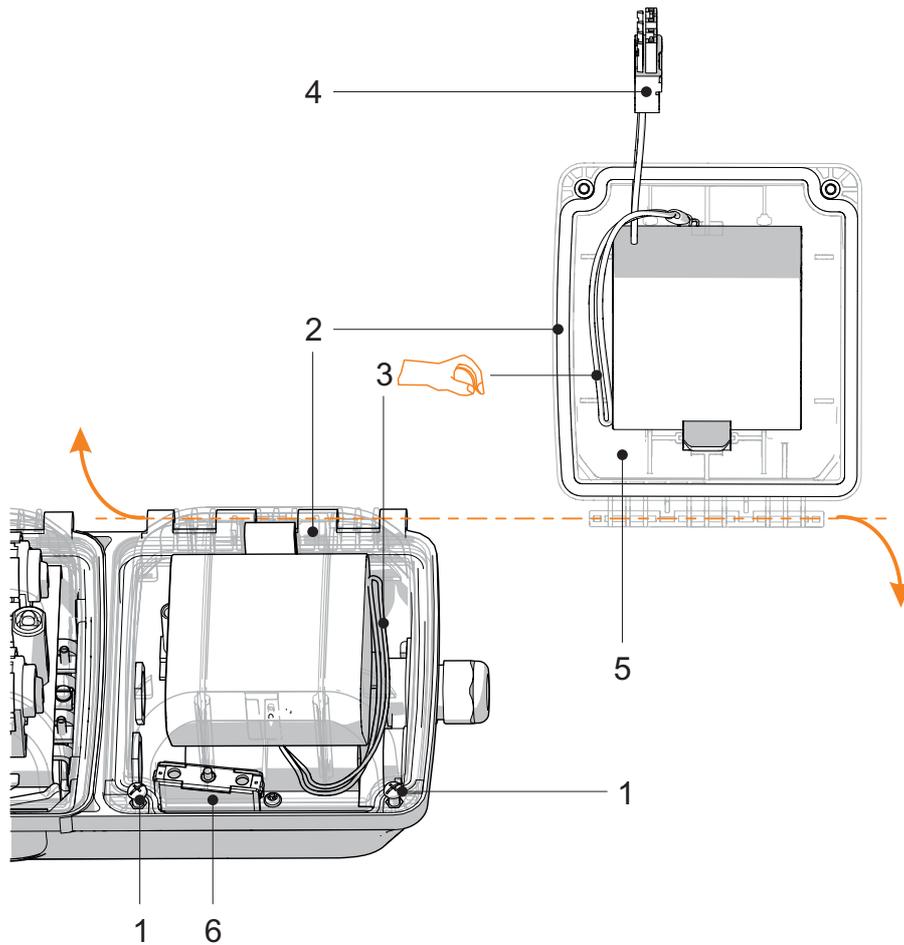
- Whether the clamping screws holding the cables are securely seated
- Whether the device enclosure and/or protective enclosure have cracks or other visible signs of damage
- Whether the seal shows signs of ageing or damage (completely replace enclosure components with damaged foamed seal)
- Whether the device is clean inside and out
- Whether the permissible temperatures (in accordance with EN 60079) are complied with
- Whether the cable entry is intact and securely tightened
- Whether the cables and lines show signs of ageing and damage
- Intended use and function.

11.1.1 Replacing the luminaire cover

 <p style="text-align: center;">06058E00</p>	<ul style="list-style-type: none"> • Open the luminaire. • Swivel the translucent cover backwards by 180°. • Lift the translucent cover to detach it from the hinge. • Insert new translucent cover into the hinge. • All hinges must engage correctly. • Close the luminaire. • Observe safety notes!
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11.1.2 Battery replacement

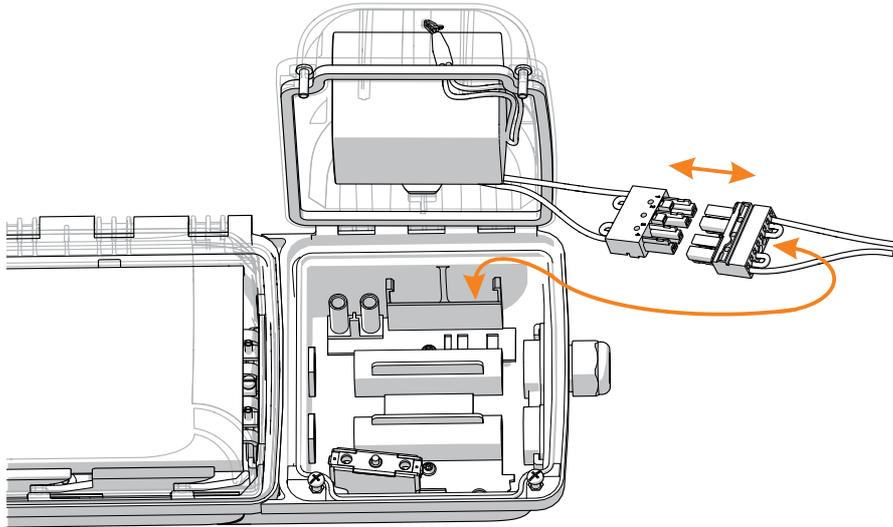
	<p style="text-align: center;">DANGER</p> <p>Explosion hazard due to explosive dust atmosphere! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> • Do not replace or transport the battery in explosive dust atmosphere!
	<p style="text-align: center;">WARNING</p> <p>Danger due to sparking! Explosion protection is impaired!</p> <ul style="list-style-type: none"> • Carry the battery cover with built-in battery secured on the wrist. • Put the strap of the battery case around the wrist.



16387E00

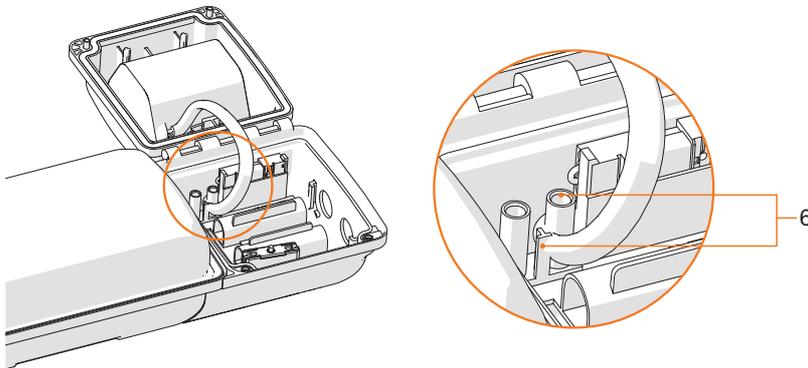
1	Screws	4	Battery plug
2	Battery cover	5	Battery
3	Strap	6	Switch

- Loosen the screws (1) (cross head H2) in the battery cover (2).
- Open the battery case.
- The switch (6) disconnects the battery circuit.
- Secure the battery cover with installed battery to your wrist using the strap (3).



16406E00

- Remove the battery plug from the chamber.
- Disconnect the battery plug (4).
- Take off the battery cover with installed battery (5).
- Put on and secure the battery cover with installed battery (5).
- Connect the battery plug (4).
- Loosen the strap (3) from the wrist and store it in the battery case.



21447E00

- Close the battery case. Fix battery conductors in place to protect them against getting caught between the plastic domes (6).
- Tighten the screws (1) (cross head H2) firmly (2 Nm).

Resetting the error indication "blinking red" after replacing the battery

	<p>The error indication "blinking red" remains active after successfully replacing the battery.</p> <p>Deactivation:</p> <p>Automatic:</p> <ul style="list-style-type: none"> • After replacing the battery a rated operating time test is carried out automatically within 14 days. • The error will be reset once this test has been passed successfully. <p>Manual:</p> <ul style="list-style-type: none"> • The line voltage must be switched on. • Actuate the switch in the battery case for 5 seconds. • Release the switch. • Actuate the switch twice within 10 seconds for a duration of 2 seconds. • Resetting of the error will be shown on the LED indicator for 5 seconds by blinking red/green. • The error is reset. • Close the battery case.
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11.2 Repair

	DANGER
	<p>Explosion hazard due to improper repair! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> • Repair work on the devices must be performed only by R. STAHL Schaltgeräte GmbH.

11.3 Returning the device

- Only return or package the devices after consulting R. STAHL!
Contact the responsible representative from R. STAHL.

R. STAHL's customer service is available to handle returns if repair or service is required.

- Contact customer service personally.

or

- Go to the r-stahl.com website.
- Under "Support" > "RMA" > select "RMA-REQUEST".
- Fill out the form and send it.
You will automatically receive an RMA form via email. Please print this file off.
- Send the device along with the RMA form in the packaging to R. STAHL Schaltgeräte GmbH (refer to chapter 1.1 for the address).

12 Cleaning

- To avoid electrostatic charging, the devices located in potentially explosive areas may only be cleaned using a damp cloth.
- When cleaning with a damp cloth, use water or mild, non-abrasive, non-scratching cleaning agents.
- Do not use aggressive detergents or solvents.
- Never clean the device with a strong water jet, e.g. using a high-pressure washer!

13 Disposal

- Observe national and local regulations and statutory regulation regarding disposal.
- Separate materials when sending it for recycling.
- Ensure environmentally friendly disposal of all components according to the statutory regulations.

	CAUTION
	<p>Danger due to chemical reactions! Human health and the environment are at risk!</p> <p>Batteries</p> <ul style="list-style-type: none"> • collect them separately • dispose of them in controlled fashion • do not dispose of them in the domestic waste • return them to public collection points or to the supplier

14 Accessories and Spare parts

NOTICE	
<p>Malfunction or damage to the device due to the use of non-original components. Non-compliance can result in material damage.</p> <ul style="list-style-type: none"> • Use only original accessories and spare parts from R. STAHL Schaltgeräte GmbH. 	

Figure	Description	Art. no.	Weight kg
 <small>16332E00</small>	Battery cover with built-in battery. Gas-tight NiCd battery; 7 Ah / 6 V	223532	1.195

	<p>For accessories and spare parts, see data sheet on our homepage r-stahl.com.</p>
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EU-Konformitätserklärung
EU Declaration of Conformity
Déclaration de Conformité UE



R. STAHL Schaltgeräte GmbH • Am Bahnhof 30 • 74638 Waldenburg, Germany
 erklärt in alleiniger Verantwortung, *declares in its sole responsibility, déclare sous sa seule responsabilité,*

dass das Produkt: **LED Notlichtleuchte**
that the product: LED Emergency Luminaire
que le produit: LED Luminaire de secours

Typ(en), type(s), type(s): **6409/4...**

mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.
is in conformity with the requirements of the following directives and standards.
est conforme aux exigences des directives et des normes suivantes.

Richtlinie(n) / Directive(s) / Directive(s)		Norm(en) / Standard(s) / Norme(s)
2014/34/EU 2014/34/EU 2014/34/UE	ATEX-Richtlinie <i>ATEX Directive</i> <i>Directive ATEX</i>	EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-7:2015 EN 60079-18:2015 EN 60079-28:2015 EN 60079-31:2014
Kennzeichnung, marking, marquage:		II 3 G Ex db ec IIC T4 Gc II 3 G Ex db ec mb IIC T4 Gc II 3 D Ex tc IIIC T100 °C Dc II 2 D Ex tb op is IIIC T100 °C Db  
EU-Baumusterprüfbescheinigung: <i>EU Type Examination Certificate:</i> <i>Attestation d'examen UE de type:</i>		IBExU 16 ATEX 1233 (IBExU Institut für Sicherheitstechnik GmbH Fuchsmühlenweg 7, 09599 Freiberg, Germany)
Produktnormen nach Niederspannungsrichtlinie: <i>Product standards according to Low Voltage Directive:</i> <i>Normes des produit pour la Directive Basse Tension:</i>		EN 60598-1:2015/A1:2018 EN 60598-2-22:2014/AC:2015 EN 62471:2008
2014/30/EU 2014/30/EU 2014/30/UE	EMV-Richtlinie <i>EMC Directive</i> <i>Directive CEM</i>	EN 61547:2009 EN 55015:2013 + A1:2015 EN 61000-3-2:2014 EN 61000-3-3:2013
2011/65/EU 2011/65/EU 2011/65/UE	RoHS-Richtlinie <i>RoHS Directive</i> <i>Directive RoHS</i>	EN 50581:2012

Waldenburg, 2019-09-02

Ort und Datum
Place and date
Lieu et date

i.V.


 Dr. A. Kaufmann
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